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WEST INDIAN SUGARCANE ROOT BORER

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PLANT PROTECTION
AND QUARANTINE RECORDS



WEST INDIAN SUGARCANE ROOT BORER

The West Indian sugarcane root borer is a destructive pest of citrus and sugarcane. It also attacks many other commercial crops including seed corn, sweet potatoes, cotton, and peppers.

Native to Puerto Rico, this insect was discovered near the town of Apopka in Orange County, Fla., in 1968. More than 3,000 acres of citrus are now known to be infested in the Apopka-Plymouth area. Approximately 26,240 acres are under State quarantine.

DAMAGE TO CITRUS TREES

Both adults and larvae of the borer attack citrus trees. Adults (beetles) feed on young, tender foliage. A heavy infestation, if not controlled, can strip trees of new growth.

Larvae (grubs) do the most damage. They tunnel into the roots and girdle them, impairing the tree's

ability to draw water and nutrients from the soil. Extreme larval damage can kill citrus trees.

Trees weakened by borer attacks fall easy prey to other citrus insects and diseases.

DESCRIPTION

The borer is a member of the weevil, or snout beetle, family. Adults vary in length from $\frac{3}{8}$ to $\frac{3}{4}$ inch. They are black, but the black is overlaid by minute white, red, orange, or yellow scales on the wing covers. These scales often rub off the wing cover ridges giving the appearance of black bands on a light background.

Larvae are white, legless, and about $\frac{1}{2}$ inch long. The head has both light and dark areas.



Figure 1.—Adult beetles feeding on citrus leaves.

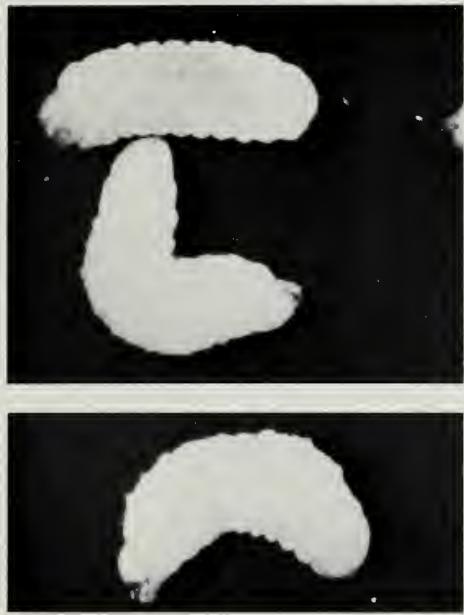


Figure 2.—Larvae are white and about $\frac{1}{2}$ inch long.

LIFE CYCLE

In Florida, adult borers emerge from the soil from early May through October. Mating and egg laying occurs throughout this period. Eggs are laid between leaves cemented together with an adhesive produced by the female. A single female may lay as many as 5,000 eggs during her life.

The eggs hatch about 7 days after they are laid. Larvae drop to the ground, burrow into the soil, and begin to feed on host plant roots. After a period of feeding, they pupate in the soil, emerging later as beetles.

The length of time spent in the larval and pupal stages varies from several months to more than a year. Thus, the total life cycle of any single borer may last from less than 1 year to more than 2 years.

CONTROL PROGRAM

USDA's Animal and Plant Health Inspection Service, Agricultural Research Service, and the State of Florida are working together to prevent spread of the borer and reduce its damage. Long range goal of the program is to eradicate the pest.



Figure 3.—Larvae damage to roots.

The work includes—

- *Quarantines.* — State quarantines are enforced to restrict the movement of articles that might spread the pest from infested to non-infested areas. Articles that might harbor the borer include soil, sand, gravel, plants, leaves, grass, sod, stump wood, and timbers.
- *Surveys.* — Surveys are conducted in the infested and surrounding noninfested areas to detect any spread of the borer.
- *Control operations.* — An insecticide is applied to infested soil in the spring and fall to kill larvae. Foliage applications of a different insecticide are made to kill adults surviving soil treatments.

- *Methods development.* — New control techniques are being tested against the pest in both Florida and its native habitat, Puerto Rico. These include the use of sex lures, different insecticides, and release of natural parasites.

HOW YOU CAN HELP

Commercial citrus growers, nurserymen, and others can help by—

- Looking for the pest or signs of damage on their trees. Any finds should be reported to State or Federal plant protection officials. (Note: Grasshopper damage can be mistaken for borer damage.)
- Complying with quarantine regulations. Regulated articles should not be moved without authorization.

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